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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,637

08/23/2006

Caiteng Zhang

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EGBERT LAW OFFICES  
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EXAMINER

HEINCER, LIAM J

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

12/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,637	<b>Applicant(s)</b> ZHANG, CAITENG	
	<b>Examiner</b> Liam J. Heincer	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 and 41 is/are rejected.
- 7) ☒ Claim(s) 1-30 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on June 23, 2009 and September 18, 2009 have been entered.

### ***Claim Objections***

Claims 1-30 and 41 are objected to because of the following informalities: The words "Main", "Two", and "The" in the body of claim are capitalized. Appropriate correction is required.

Additionally, the phrase "chelates(s)" should be "chelate(s)" throughout the claims.

Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 2 requires the composition to further comprise a protein. Proteins are already required in claim 1, from which claim 2 depends. As such, the claim does not further limit the scope of claim 1.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-30 and 41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Considering Claim 1: Claim 1 contains the newly added limitation “for static bio-carrier” several times in the claim. This original specification contains no support and no definition for this term.

Claim 1 has been amended to recite a “main skeleton of the biocarrier” and “two functional groups which tend to the opposite sides of the skeleton”. The original specification does not refer to a skeleton or two functional groups which tend to opposite sides of the reaction.

The new range limitations for the hydroxyl group bearing compound and the amino group bearing molecule do not have support in the original specification. Additionally, the ranges have been amended to report to five decimal places. The ranges disclosed in the original specification are never given with an accuracy greater than to two decimal places.

Claim 1 contains the limitation “the structure of the well-mixing chelates is tend to chain-form which contains positive and minus polar functional groups beside it”. The original specification provides no support for chain formation or positive or minus polar functional groups.

Considering Claim 10: Claim 10 has broadened the nature of the polymer bridging agent from polyvinylpyrrolidone. The original specification only provides support for the polymer bridging agent as being a monosaccharide or polyvinylpyrrolidone (pg. 8). This is not sufficient to support the broader limitations claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-30 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Considering Claim 1: Claim 1 claims a solution of metal polymer chelates for static bio-carrier. The body of the claim describes a bio-carrier that appears to be the metal polymer chelate. However, the claim also requires the bio-carrier to selected from a group that is not a metal polymer chelate solution. Therefore it is no clear what component of the claim is the metal polymer chelate and what component is the static bio-carrier.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 1 requires a main skeleton comprising water. It is not clear how water can be part of a polymer skeleton as it is a small molecule. Thus the scope of the claim is indefinite.

Claim 1 has been amended to recite "two functional groups which tend to the opposite sides of the skeleton". It is not clear what is meant by the phrase "tend to the opposite sides of the skeleton". The original specification provides no guidance on what is meant by this phrase.

Claim 1 contains the limitation "the structure of the well-mixing chelates is tend to chain-form which contains positive and minus polar functional groups beside it". It is not clear what this limitation is intending to claim. The original specification provides no guidance on what is meant by this phrase.

Claim 1 contains the limitation "whereby the metal-polymer chelates(s) solution for static bio-carrier is capable of assisting in a fermentation to preserve process". It is not clear what this limitation is intending to claim. The original specification provides no guidance on what is meant by this phrase.

As the scope of the claims cannot be determined at this time, application of prior art cannot be attempted at this time.

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Considering Claims 14-30 and 41: Claims 14-30 and 41 provide for the use of the metal-polymer chelate solution, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 14-30 and 41 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Response to Arguments***

Applicant's arguments filed June 23, 2009 and September 18, 2009 have been fully considered but they are not persuasive.

The applicants arguments with regard to the decimal places is not persuasive. While multiplying decimals mathematically results in additional decimal places, in the chemical arts the concept of significant figures is employed. When multiplying two decimals the number of significant digits is maintained during the operation. Additionally, the applicant has not explained why the applicant is multiplying ranges, as the example cited in the arguments does not make this clear. The original specification provides ranges for the components of the claims, and these ranges do not support the newly claimed ranges.

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Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. The applicants arguments consist of a description of the an invention that is not currently claimed. The applicants arguments appear to deal heavily with hydroxypropy methyl cellulose but this species is never required by any of the claims. As the claims seem to deem this species critical, the applicant is advised to place it in the instant claims.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1796

LJH

December 9, 2009

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